

ENDANGERED SPECIES

Technical Bulletin Insert Wildland Management Center
The University of Michigan

From the World Wildlife Fund-U.S.



DERMATEMYS RIVER TURTLE: POTENTIAL MODEL FOR SUSTAINABLE USE

Environmentally sound development depends upon the maintenance of the health and well-being of humans already residing in areas needing conservation management. Consequently, sustainable use of wildlife—rational utilization of floral and faunal resources—is the ideal in engendering the cooperation of local people in developing a management program that includes endangered species protection and recovery as well as general habitat conservation. Population recovery of the Gray Central American River turtle, *Dermatemys mawei*, is a case where the viability of a management program will be dependent upon a plan that will promote species population increase at the same time the turtle can be used as a protein and income resource.

In order to increase the numbers of *Dermatemys* (the only living representative of its family), as close as possible to the former population, it is first necessary to learn as much as possible about the species, its habitat requirement and the use by humans of this valuable resource.

Although named in 1847, little is recorded about the turtle's history or behavior. However, according to a report (Oryx, 1979) by Russell A. Mittermeier of World Wildlife Fund-U.S., it is a large (60 cm, 22 kg), highly aquatic, primarily nocturnal and herbivorous species endemic to the fresh rivers and large permanent lakes of southeast Mexico (excluding the Yucatan), Guatemala, Belize and extreme north-west Honduras. Fossil records show that its former range was much wider, including the western United States, specifically parts of Montana, Idaho, Wyoming, and Arizona, and the southern U.S., in Alabama and Georgia. Archaeological remains are known from Veracruz, Mexico, and there is a questionable record from Tikal, Guatemala.

Dermatemys is heavily exploited for private consumption as well as market value throughout its range. Both its eggs and meat are eaten. Mexico, where most of the *Dermatemys* data have been collected, now contains critically reduced population levels. Since 1970, *Dermatemys* has become a rarity at the markets in Veracruz and Tabasco, where it was formerly a featured commodity. Chiapas now supplies most of the turtles for market, yet the progressively smaller size of market specimens points to a depletion of larger individuals, the primary breeders of this species.

On the basis of data drawn from Mexico, *Dermatemys* has been given "vulnerable" status in the 1982 IUCN *Amphibia and Reptilia Red Data Book*, Appendix II status by CITIES and "Highest Priority" by the IUCN/SSC Freshwater Chelonian Specialist Group. Yet no current information on the status of this species in Belize, a major portion of its range, is available. Such data would provide what is necessary for an "endangered" classification by IUCN.

Preliminary studies by Dr. Don Moll of Southwest Missouri State University made during Summer 1983 indicate that the species is scarce near major population centers because of exploitation. Most of the turtles now arrive at market from the more remote northern part of the country, where a large population may still exist.

As a beginning stage of a long-term program of ecological research, management and conservation of this species as well as that of other freshwater turtles in Belize, WWF-US has funded Moll's study to determine the status, distribution, and general exploitation of *Dermatemys*. Important to this study will be the level of exploitation of the species for human consumption and its importance as a protein resource.

Before a management program for this species may be designed, data concerning population dynamics, growth and reproduction will be taken by Moll along with local volunteers and personnel from St. John's College in Belize City. As there is no legislation concerning non-marine turtles in Belize, and while the Belize Fisheries Unit, although sympathetic, has no available funds or personnel, this initial survey will provide a data base for possible future government legislation and conservation action on behalf of *Dermatemys* in Belize.

Through the proper negotiation of communication channels to the government and through the Belize Audubon Society to local inhabitants, an appropriate conservation program can be developed advantageous to the parties involved. This study would then prove successful in two important endeavors, namely, to connect some missing links in the literature on a little known species, and become an example of a model research and management project to promote the sustainable use of a valuable resource.



photo by R.A. Mittermeier

ENDANGERED SPECIES ON THE ROAD: THE AUDUBON ARK

by Paul Dahmer

Always dedicated to the preservation of endangered species, the National Audubon Society, with a large grant from the Celanese Corporation, has created the Audubon Ark. The Ark is a traveling educational exhibit designed to instill a greater awareness of the plight of our endangered species. Constructed on nine four by eight foot panels, the Audubon Ark is a compilation of America's endangered species captured in vivid color photographs. Concise articles describe the struggles leading to the uncertain future of these endangered animals and plants. There are hands-on exhibits where you can test your knowledge, and if you have any questions, an Audubon representative is always on hand to help out.

Tom Troy, director of the Audubon Ark, and Edward McCain, environmental education specialist, travel around the country to bring the exhibit to interested adults and children. The Audubon Ark has been on the road since July 1981 and will have visited forty-eight states by July 1984. Below is a list of locations where the Ark will be on display during February and March. For more information you can write to the National Audubon Society, Audubon Ark, 950 Third Avenue, New York, N.Y. 10022.

AUDUBON ARK SCHEDULE

Set up #127 February 29-March 4
Set up Location: 1984 Sportsman's show, Dick Laros Agricultural Building, Allentown Fair Grounds Allentown, PA 18102 (215) 433-3288
Local Chapter: Lehigh Valley Audubon and Pocono Mountain Audubon
Contact Person: Chuck Sarley, 63 N. Broad St. Ext. Nazareth, PA 18064 Hm. (215) 759-7892
Mail sent to: same

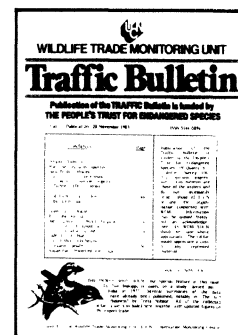
Set up #128 March 7-11
Set up Location: Harrisburg East Mall, Joanne Murphy, (bus. ph.. (609) 667-5500, Rt. 83 & Paxton Street, Harrisburg, PA 17111 (717) 564-0980
Local Chapter: Appalachian Audubon Society
Contact Person: Dale Darkes, 319 Cascade Rd. Mechanicsburg, PA 17055
Hm. (717) 697-2921 Wk. (717) 787-3966
Mail sent to: same

Set up #129 March 15-18
Set up Location: Logan Valley Mall, Georgia Luke, Mktg. Dir. Altoona, PA 16602 (814) 944-6128 (mail address: 220 Goods Lane)
Local Chapter:
Contact Person: John Hunter Orr, 3001 4th Ave., Altoona, PA 16602 Hm. (814) 943-5629 Wk. (814) 946-8273
Mail sent to: same

Set up #130 March 22-25
Set up Location: Mill Creek Mall, Betty Clark, Mktg. Dir. 654 Mill Creek Mall, Erie, PA 16565 (814) 866-0751
Local Chapter: Presque Isle Audubon
Contact Person: Caroline Baxter, 1150 Pine Tree Dr., Girard, PA 16417 Hm. (814) 774-9441 Mail sent to: Mary Gardner 929 W. 8th St., Erie, PA 16502

Set up #131 March 28-April 1
Set up Location: Monroeville Mall, Deborah Marcus, Monroeville, PA 15146 (412) 243-8511
Local Chapter: Audubon Society of Western Pennsylvania
Contact Person: D.B. Freeland, 2545 Countryside Lane, Wexford, PA 15090 Hm. (412) 935-3168 Wk. (412) 255-3042
*Contact - Ark/Pub, Randolph Gerrish, V.P., 209 Gibraltar Road, Pittsburgh, PA 15239 Hm. (412) 327-6100 Wk. (412) 327-8821
Mail sent to: Randolph Gerrish

Set up #132 April 4-7
Set up Location: Mountaineer Mall, Marty Rahfuse Greenbag Rd., Morgantown, WV 26505 (304) 296-0096
Local Chapter: Mountaineer Chapter Contact Person: Emily Grafton, Rt. 10, Box 520, Morgantown, WV 26505 Hm. (304) 291-0512
Mail sent to: same



MONITORING INTERNATIONAL TRADE

The *Traffic Bulletin* is published bimonthly by the IUCN Wildlife Trade Monitoring Unit (WTMU) at Cambridge, England. The Unit is a body of the Conservation Monitoring Centre which monitors trade in wildlife, in particular the trade under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). It provides the CITES Secretariat with trade reports and data analyses on a contract basis and advises national Management Authorities where appropriate. Among the main sources of data are the published annual reports of CITES prepared by the Parties to the Convention. WTMU computerizes all trade records and can supply comparative tabulations upon request, either covering trade in individual countries or trade in specific animal and plant groups. To produce these reports, material is gathered from a wide range of sources including the TRAFFIC offices, which are national wildlife trade monitoring units, set up independently as non-governmental organizations linked into a network by WTMU. At the beginning of 1983, the Unit began the major task of surveying all operations that farm, ranch and commercially captive-breed wild mammals, birds, reptiles, and amphibians. A preliminary report was produced on crocodile ranching in time for the April CITES meeting in Botswana.

In addition to the specialist reports, WTMU produces the *Traffic Bulletin* as a news service on wildlife trade and reports on particular studies by WTMU staff and consultants. The newsletter was started in November, 1982 and has had feature articles on the international trade in marine mammals, 1979 international trade in skins of monitor and tegu lizards, and trade in birds in Senegal and India. To obtain a copy of the *Traffic Bulletin* write: Kim Lochen, Wildlife Trade Monitoring Unit, IUCN Conservation Monitoring Centre, 219c Huntingdon Road, Cambridge CB3 0DL, England.

IUCN AND SMITHSONIAN COOPERATE IN LATIN AMERICA PLANT CONSERVATION PROJECT

The Smithsonian Institution recently signed an agreement with the International Union for Conservation of Nature and Natural Resources (IUCN) to continue work on compiling information on threatened plants of Latin America. Work will be coordinated through the Department of Botany's Plant Conservation Unit and the Threatened Plants Unit of the Conservation Monitoring Centre at the Royal Botanic Gardens, Kew, England. Jane Lamlein, the principal investigator, will be responsible for issuing a report on threatened plants in Central America making use of the extensive information already assembled under a previous contract with IUCN. The report will contain a list of rare and endangered plants of Central America emphasizing those which occur in habitats under severe threat, in important centers of endemism and in sites of greatest plant diversity.

In addition, data sheets on selected plant sites in Central and South America will be prepared for the second *Plant Red Data Book*, to be published by the end of 1984 to coincide with the World Wildlife Fund's Plants Campaign. This book will contain accounts of 100-150 of the world's top botanical sites in need of conservation, as well as the major vegetation types in danger, and the kinds of threats being imposed. It is hoped this volume will complement the 1978 edition which contained case histories on 250 threatened species selected to represent different plant-rich regions of the world, their unique species, and the threats to their survival. Unfortunately, due to a lack of information, tropical areas were not well represented in the first volume. However, within the past five years, an extensive data gathering campaign has been launched, and the assembled information will aid in recommending conservation measures in the tropics. It is hoped the second book will be the first volume in a series of books which will each address a different aspect of plant conservation. A genetic resources red data book which would include sheets on threatened species likely to have potential economic utility, such as medicinal plants, crop relatives, energy plants and forest trees has been proposed. Another idea is to prepare a threats red data book with chapters on each class of threat and giving example species for each; certain hazards are unique to particular countries and regions.

In order to accomplish such a comprehensive study, a global network of scientists has been set up to assist in data gathering. Jane Lamlein has been compiling data on threatened plant species and habitats in Latin America for three years by reviewing the pertinent literature and corresponding with approximately 250 contributors. Because of the vastness of the area under review and the lack of documentation from some countries, it is essential to rely on contributors who have experience in the field. Anyone having information concerning threatened plant species and ecosystems of Latin America, or knowing of persons involved in research in the area, are invited to contact Jane Lamlein, Department of Botany, Plant Conservation Unit, NHB 166, Smithsonian Institution, Washington, D.C. 20560.

SPECIAL THANKS

Jane Lamlein of the Plant Conservation Unit at the Smithsonian Institution contributed the articles on TRAFIC and the IUCN-SI plant conservation program.

Plan **NOW** to attend



The World Congress on Animal Protection

in Boston, MA May 27-June 1, 1984

In May/June 1984, WSPA and the United States will host for the first time an international gathering of the leading professionals in the field of animal protection. The World Congress will bring together representatives from nations throughout the world to discuss the critical issues affecting animals in their countries for the purpose of sharing knowledge and unifying efforts for developing meaningful action programs. There will be **simultaneous translation into four languages** of the Congress proceedings.

For more
information write:

Congress Coordinator
WSPA
29 Perkins Street
P.O. Box 190
Boston, MA 02130

OF INTEREST ...

The Smithsonian Tropical Research Institute's Conservation and Environmental Education Office in collaboration with the Panamanian Office of Renewable Resources has issued a colorful educational poster on endangered animals in Panama. The poster, in Spanish, will be distributed to schools and institutions throughout Panama, according to Jorge Ventocilla, an environmental assistant at STRI.

A new brochure describing research opportunities in the tropics at the Smithsonian Tropical Research Institute, its facilities and financial support can be obtained by writing to Smithsonian Tropical Research Institute, APO Miami, FL 34002, Attn: The Director.

To the Readers:

This is the first issue that we have limited to paid subscribers. We appreciate your support and hope that you will encourage others to subscribe to the *Technical Bulletin*.

We have enjoyed reading some encouraging letters from subscribers and hope you will all become contributors to the *Insert*.



Technical Bulletin Insert

A forum for information exchange on endangered species from

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FUTURE MEETINGS

October 29-31, 1984. Symposium on the Biogeography of Central America to be held in Merida, Yucatan, Mexico. Sessions will include papers on plant, animal and human geography as well as diseases, vectors and cultivars. This symposium is sponsored by El Museo Nacional, San Jose, Costa Rica; El Instituto Nacional para Investigaciones de Recursos Bioticos, Xalapa, Veracruz, Mexico; and the Mesoamerican Ecology Institute of the Center for Latin American Studies, Tulane University, New Orleans, Louisiana. Persons wishing to give papers or attend should contact either Mr. Luis Diego Gomez, Museo Nacional, Aptado. 749, San Jose, Costa Rica; Dr. Arturo Gomez-Pompa, Director General INIREB, Apatado. 63, Xalapa, Veracruz, 91000, Mexico; or Prof. Arthur L. Welden, Department of Biology, Dinwiddie Hall, Room 210, Tulane University, New Orleans, Louisiana.

A WEALTH OF SPECIES

A Wealth of Wild Species by Norman Myers can be obtained from Westview Press at 5500 Central Ave., Boulder, CO 80301, for \$11.95 (plus \$2.50 S&H). A Condensed version, "By Saving Wild Species, We May Be Saving Ourselves," is in the Nov/Dec 1983 issue of *The Nature Conservancy News*.

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